BSCS 6th.B [SS]

Federal Urdu university of Arts, Science & Technology, Islamabad

Course Name: Computer Graphics

Credit Hours: 3(2+1)

Teacher Name: Mr. Muhammad Yousaf

Code: CS-

Semester: 6th

Class: ~~MSO. (CS)~~ BSCS(CS)

Course Profile

Course Description:

The course aims at developing necessary and critical skills for students to effectively use and produce Graphics and Animations. The class begins with the overview of the Graphic concepts and elements. The course will cover the recent technology of the Graphics software, tools and hardware. For this purpose, students will be exposed by using the necessary hardware, tools and software to be used in developing Graphics products and projects.

Course Objectives

The student is expected to learn and apply the concepts of Graphics elements, development of a Graphics system and Processes involved

Attendance, Assignments and Quizzes

Every class is important. Every student is expected to attend every lecture. However, 75% attendance is mandatory. Every student must reach the classroom in time. Late comers will be marked as absent. A student must not leave the classroom during the lecture unless it is essential.

Students are required to take all tests. No make-up test will be given under normal circumstances, no assignment will be accepted after due date. Students are expected to submit their own solutions of the assignments. Students copying another person's work or allowing their work to be copied can expect one of the following actions to be taken by the instructor:

1. Both students will receive negative points to the points of the assignment.
2. Both students will have their final grade lowered by one lower grade.

Quizzes Schedule

	Week 4
Quiz # 1	Week 6
Quiz # 2	Week 8
Quiz # 3	Week 12
Quiz # 4	

Assignments

Assignments	Delivery of Assignments	Submission date
Assignment # 1	Week 2	Week 3
Assignment # 2	Week 4	Week5
Assignment # 3	Week 6	Week 7
Assignment # 4	Week 8	Week 9
Assignment # 5	Week 10	Week11

Weekly Plan:

Wk#	Topic covered
1	**Lecture#1:** Introduction to Computer Graphics
	Lecture#2: Background and programming languages, Graphical tools
2	**Lecture#3:** Introduction, Survey of Computer Graphics. Overview of Graphics Systems.
	Lecture#4: Coordinate Reference Frames. Points and Vectors.
3	**Lecture#5:** Line Attributes, Curve Attributes. Character Attributes, Bundled Attributes
	Lecture#6: Inquiry Functions.
4	**Lecture#7:** Basic Transformations. Matrix Representations and Homogeneous Coordinates.
	Lecture#8: Transformation between Coordinate System
5	**Lecture#9:** Structure Concepts, Editing Structures.
	Lecture#10: Basic Modeling Concepts. Hierarchical Modeling
6	**Lecture#11:** User Dialogue, Input of Graphical Data.
	Lecture#12: Input Functions.
7	**Lecture#13:** Points and Lines. Line Drawing Algorithms
	Lecture#14: Circle Generating Algorithms
8	**Lecture#15:** Loading Frame Buffer.
	Lecture#16: Synchronization,.
9	**Lecture#17:** Curves. Pixel Addressing.
	Lecture#18: Filled Area Primitives

10	**Lecture#19:** Introduction of Character Generation	
	Lecture#20: Viewing Coordinates Reference Frame	
11	**Lecture#21:** Clipping Operations, Point Clipping, Line Clipping	
	Lecture#22: 3D Display Methods,	
12	**Lecture#23:** Polygon Surfaces.	
	Lecture#24: Curved Lines and Surfaces, Quadric Surfaces	
13	**Lecture#25:** 3D Graphics Packages	
	Lecture#26: 3D Graphics Packages	
14	**Lecture#27:** QOS Architecture	
	Lecture#28: Ant aliasing	
15	**Lecture#29:** Curved Lines and Surfaces	
	Lecture#30: Color & Gray Scale Levels	
16	**Lecture#31:** Practical Presentation.	
	Lecture#32: Practical Presentation.	

Recommended Books

Text Book:

Computer Graphics: Donalds , Practical Tool: 3D Studio Max

Reference Book:

Internet